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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|---------------------------|---------------------|------------------|
| 09/284,863 | 06/07/1999 | FLEMMING FAURBY STENGAARD | 459-303P | 2909 |

2292 7590 10/01/2002

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EXAMINER

YAO, SAM CHAUN CUA

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1733

DATE MAILED: 10/01/2002

18

Please find below and/or attached an Office communication concerning this application or proceeding.

mk-17

Office Action Summary

Application No.

09/284,863

Applicant(s)

STENGAARD ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-42, 44, 46, 48 and 50-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44, 46, 48 and 50-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Note, this is an RCE without an indication of a shift from the elected group of claims.

Therefore, claims 26-42 and 66-84 are withdrawn from further consideration as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44, 46, 48 and 51-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US 5,525,243) and in view of Jensen et al (US 5,958,806; using a PCT Pub date of 07-20-95).

With respect to claims 44 and 51-58, Ross discloses a cardable polyolefin fiber, such as a polyethylene and polypropylene, which is coated with a finishing composition comprising about 5-25 weight percent of an anti-static agent, about 15-50 weight percent of polyethylene glycol, about 0-80 weight percent of an emulsifier, and the balance is a lubricant, wherein the lubricant is selected from a non-water soluble alkyl esters such as a **tridecyl stearate** (col. 2 lines 36-45; col. 4 lines 39-54; col. 5 lines 9-15).

It is unclear whether Ross teaches forming a hydrophobic finishing composition; and Ross does not expressly disclose an amount of non-water soluble alkyl esters (**tridecyl stearate**) that is coated on the fiber. However, it would have been obvious in the art to form a hydrophobic finishing composition in a process taught by Ross, because Jensen discloses using a hydrophobic finishing composition comprising a hydrophobic lubricant to form hydrophobic polyolefin fibers so as to enhance the characteristics of resultant nonwoven fabrics; and suggests also reducing the amount of polar components such as an antistatic agent in the finishing composition (abstract; col. 1 lines 11-25; col. 2 lines 16-68; col. 3 lines 3-13; col. 6 lines 34-67). One reading Ross in light of the teachings of Jensen would have recognized and appreciated that, one of the effective ways to ensure a hydrophobic composition would be to reduce the amount of polar components in the finishing composition taught by Ross by forming a fiber finishing composition comprising around 80 weight % of lubricant such as a tridecyl stearate, about 5 weight percent of antistatic agent, about 15 weight% polyethylene glycol, about 0 weight% emulsifier. Moreover, it would have been obvious in the art to coat the recited amount of non-water soluble alkyl esters (**tridecyl stearate**) onto the polyolefin fiber of Ross because Ross discloses *that "The amount of finish composition to be applied onto a synthetic filament is also dependent on the end product of the filament yarn"*, and further discloses using 0.5-1.0% or .75-1.25% of a finish composition (col. 7 line 40 to col. 8 line 33); and because it is well within the purview in the art to determine, by routine experimentation, a suitable amount of lubricant for fibers for the desired end-use of a resultant article. Note: the above finishing composition would

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produce fibers having tridecyl stearate in the amount of about .08 weight % (.8 X 1% of finishing composition) or 1.0 weight % (.8 X 1.25% of finishing composition).

With respect to claims 46 and 48, see column 8 lines 1-5 of Ross. It is understood that the fibers in the nonwoven web of Ross are bonded together.

With respect to claims 59-61, see column 3 line 56 to column 4 line 8. Note that, Ross teaches using phosphate antistatic agents (see column 3 lines 57-59). The recited formula is a well known phosphate ester or salt anti-static agent in the art.

With respect to claim 62, the recited materials are well known friction reducing agents in the art. Note that Ross discloses the importance of reducing fiber friction, and also discloses, in a related prior art, various friction reducing materials such as waxes, silicone oil, etc (col. 2 lines 18-28, lines 56-62).

With respect to claims 63, see column 2 lines 18-28; and column 4 lines 1-8.

With respect to claims 64-65, the finishing composition of Ross comprises about 5-25 weight percent of antistatic agent, about 15-50 weight% polyethylene glycol, about 0-80% emulsifier, and the remainder is a lubricant such as a tridecyl stearate (col. 3 lines 33-43; col. 4 lines 40-54). Therefore, it would have been obvious in the art to form a fiber finishing composition comprising around 80 weight % of lubricant such as a tridecyl stearate, about 5 weight percent of antistatic agent, about 15 weight% polyethylene glycol, about 0 weight% emulsifier. Since a fiber is coated with a finishing composition which is mainly composed of a tridecyl stearate (i.e. 80 weight %); since tridecyl stearate taught by Ross is the same preferred material as Applicant evidence from the specification on page 12 lines 25-30 with an amount which falls on the upper

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end of a preferred finishing composition disclosed on page 11 lines 22-33; and since the amount of tridecyl stearate on a fiber using the above finishing composition is about .08 weight % (.8 X 1% of finishing composition) or 1.0 weight % (.8 X 1.25% of finishing composition), which is at least close (if not the same) as the upper-most value of 1% by weight recited in claim 44, it would be reasonable to expect that the recited hydrophobicity values in these claims, as measured by the WRC test would naturally flow from the teachings of Ross using the above finishing composition. In any event, absent any showing of unexpected result/benefit with regard to the recited WRC range, one in the art would have determined, by routine experimentation, a workable degree of fiber hydrophobicity for the desired end-use of polyolefin fibers.

3. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US 5,525,243) as applied to claim 48 above, and further in view of either Haffner et al (US 5,514,470) or Connell et al (US 5,509,142) or Willey et al (US 5,494,736).

It would have been obvious in the art to form a composite web to the nonwoven web of Ross as such is conventional in the art as exemplified in the teachings of either Haffner et al (col. 6 lines 10-18; col. 7 lines 17-31, lines 59-67; col. 8 line 36 to col. 9 line 9; abstract) or Willey et al (abstract; col. 6 lines 8-29) or Connell et al (col. 8 lines 37-67; col. 9 lines 39-49).

Response to Arguments

4. Applicant's arguments filed 12-05-01 have been fully considered but they are not persuasive.

In response to Counsel's argument on page 5 that there is no motivation to form a hydrophobic finishing in the process taught by Ross, such is moot in light of new ground of rejection.

In response to Counsel's argument regarding a declaration submitted by Applicant, Applicant/Counsel is herein apprised that a reference is not confined to the disclosed working examples. A proper evaluation of the reference must include a determination of what the reference reasonably conveyed to one having ordinary skill in the art. Ross discloses a finishing composition which comprises about 5-25 weight percent of an anti-static agent, about 15-50 weight percent of polyethylene glycol, about 0-80 weight percent of an emulsifier, and the balance is a lubricant, wherein the lubricant is selected from a non-water soluble alkyl esters such as a **tridecyl stearate**. Equally important, Examiner disagrees with Applicant's conclusion that the experimental data shows that the fibers coated with a finishing composition in Example 4 is hydrophilic. In fact, in claim 64 (in Paper No. 10), it recites a WRC value of "*at least 5 cm*". This claim is dependent on claim 44 which requires fibers being covered with a hydrophobic finishing composition. The WRC value of fibers tested in example VIa is 5.8 cm. Allegedly, these fibers are hydrophilic. Why would these fibers be hydrophilic, when fibers with a WRC value of 5 cm are characterized to be hydrophobic in

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claims 4 and 64? Another compelling results are illustrated in Tables 1 and 3. In Table 1, it shows that for a standard hydrophilic (staple fiber finish), a strike through (sec) is around 2.5. However, it can also be as high as >300. However, in Applicant's declaration, a non-woven web of the present invention has a strike through value of >300. Accordingly, the non-woven web is hydrophobic.

Moreover, in Table 3, it illustrates that, a hydrophobic sheet in a rewettable, conventional rewettable finish can have a strike through value as low as about 5 or 8. Why would a strike through value of 6.5 seconds in example VIa be considered as hydrophilic, when table 3 shows that a hydrophobic sheet can have a strike through as low as 5? Note: it is immaterial, whether or not, for this sample, it has been contaminated by a hydrophilic finish, because a resultant sheet is still hydrophobic. The data provided by Applicant in a declaration, at best, merely show that, the fibers in Example 4 is less hydrophobic than a particular example illustrated in the specification. Note: independent claim 44 does not even require any degree of hydrophobicity.

Note: Examiner requested for Counsel to provide references which would help clarify whether fibers are hydrophobic or hydrophilic, based on test conducted by Applicant. In other words, a reference or references would provide a clear demarcation on the various tests made by Applicant to positively determine whether or not the fibers in example IV of Ross are hydrophilic as alleged by Applicant. Counsel provided a reference on 09-23-02, the reference appears to

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fail to provide a clear discussion which would help determine whether or not the fibers in example IV are hydrophilic.

In response to Counsel's argument on page 6 regarding an alleged showing of *"unexpectedly superior properties over the disclosure of Ross '432."*, it is unclear what superior properties is being referred to by Counsel. The declaration provided, as noted above, at best, merely shows that, the fibers in Example 4 is less hydrophobic than a particular example illustrated in the specification. Is Counsel suggesting that the present fibers are superior because the hydrophobicity of the fibers? If so, there is nothing unexpected about this fiber property as such is conventional in the art. In fact, in addition to Jensen et al, Harrington (US 5,545,481; col. 1 lines 14-21; claim 138) is also cited as further evidence showing that it notoriously well known in the art to provide hydrophobic finishing composition to polyolefin fibers. Even for the sake of argument there is a showing of unexpected benefit, it is quite clear that the presently recited independent claim 44 is not commensurate with the scope of the data illustrated in a particular example in the specification.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

scy
September 28, 2002